<u>IN THE CLAIMS</u>

1-16. (Cancelled)

17. (Currently Amended) A diagnostic X-ray system <u>configured to operate in a fluoroscopy mode and an imaging mode</u>, comprising:

an X-ray generating unit ~~that~~ <u>configured to perform</u> ~~performs~~ a first X-ray radiation in [[a]] <u>the</u> fluoroscopy mode to determine an imaging position, and <u>to perform</u> a second X-ray radiation in ~~an~~ <u>the</u> imaging mode to acquire a diagnosis image, according to predetermined respective X-ray loading factors<u>, wherein a strength of radiated X-rays in the imaging mode is higher than a strength of radiated X-rays in the fluoroscopy mode</u>;

an X-ray beam limiting unit ~~that limits~~ <u>configured to limit</u> a radiation region of ~~the~~ X-ray<u>s</u> through beam limiting;

an image generating unit ~~that generates~~ <u>configured to generate</u> an image based on the X-ray<u>s</u> passing through a subject;

a region sett<u>ing</u> unit ~~that sets~~ <u>configured to set</u> a first region in the image <u>when the X-ray system is</u> in ~~the case of moving to~~ the fluoroscopy mode, and ~~sets~~ <u>to set</u> a second region broader than the first region in the image <u>when the X-ray system is</u> in ~~the case of moving to~~ the imaging mode;

a region transform unit ~~that transforms~~ <u>configured to transform</u> the first region to exclude the radiation region corresponding to the beam limiting when the first region includes the <u>radiation</u> region corresponding to the beam limiting, and ~~transforms~~ <u>to transform</u> the second region to exclude the <u>radiation</u> region corresponding to the beam limiting when the second region includes the <u>radiation</u> region corresponding to the beam limiting;

a brightness computing unit ~~that computes~~ <u>configured to compute</u> a brightness value within the transformed first region or within the transformed second region when the first

2

region or the second region is transformed by the region transform unit, and to compute

~~computes~~ a brightness value within the first region or within the second region set by the

region setting unit when the first region or the second region is not transformed by the region

transform unit; and

a controller ~~that determines~~ configured to determine the X-ray loading factor related

to the first X-ray radiation or the second X-ray radiation based on the ~~basis of the~~ computed

brightness value, and to perform ~~performs~~ feedback control of the X-ray generating unit

based on ~~the basis of~~ the determined X-ray loading factor.

18. (Currently Amended) The diagnostic X-ray system according to claim 17,

wherein:

~~in the imaging mode,~~ the X-ray generating unit is configured to perform ~~performs~~ the

first X-ray radiation with an X-ray intensity lower than that of the second X-ray radiation

when the diagnostic X-ray system is operating in the imaging mode,

the region setting unit is configured to set ~~sets~~ the second region in the image when

the diagnostic X-ray system is operating in the imaging mode, and

the controller is configured to determine ~~determines~~ the X-ray loading factor related

to the second X-ray radiation[[,]] based on the computed brightness value within the

transformed second region corresponding to the first X-ray radiation or the computed

brightness value within the second region set by the region setting unit when the diagnostic

X-ray system is operating in the imaging mode.

19. (Currently Amended) The diagnostic X-ray system according to claim 17,

wherein[[:]] the region setting unit is configured to set the first region and the second region

~~are of~~ in a shape and a size corresponding to a region to be diagnosed.

20. (Currently Amended) The diagnostic X-ray system according to claim 19, wherein[[:]] the brightness computing unit is configured to perform the brightness computation related to the first region or the second region performed by said brightness computing unit in real time in association with the beam limiting manipulation by said beam limiting unit, and the controller is configured to perform the feedback control of an X-ray loading factor performed by said controller based on the first region or the second region are performed in real time in association with the beam limiting manipulation by said beam limiting unit.

21. (Currently Amended) The diagnostic X-ray system according to claim 17, wherein[[:]] the brightness computing unit is configured to perform the brightness computation related to the first region or the second region performed by said brightness computing unit in real time in association with the beam limiting manipulation by said beam limiting unit, and the controller is configured to perform the feedback control of an X-ray loading factor performed by said controller based on the first region or the second region are performed in real time in association with the beam limiting manipulation by said beam limiting unit.

22. (Currently Amended) A diagnostic X-ray system configured to operate in a fluoroscopy mode and an imaging mode, comprising:

an X-ray generating unit that performs configured to perform a first X-ray radiation in [[a]] the fluoroscopy mode to determine an imaging position, and a second X-ray radiation in the an imaging mode to acquire a diagnosis image, according to predetermined respective X-

ray loading factors, <u>wherein a strength of radiated X-rays in the imaging mode is higher than a strength of radiated X-rays in the fluoroscopy mode</u>;

an X-ray beam limiting unit ~~that limits~~ <u>configured to limit</u> a radiation region of ~~the~~ X-ray<u>s</u> through beam limiting;

an image generating unit ~~that generates~~ <u>configured to generate</u> an image based on the X-ray<u>s</u> passing through a subject;

a region set<u>ting</u> unit ~~that sets~~ <u>configured to set</u> a first region in the image <u>when the X-ray system is</u> in ~~the case of moving to~~ the fluoroscopy mode, and ~~sets~~ <u>to set</u> a second region broader than the first region in the image <u>when the X-ray system is</u> in ~~the case of moving to~~ the imaging mode;

a region transform unit ~~that transforms~~ <u>configured to transform</u> the first region to exclude the radiation region corresponding to the beam limiting when the first region includes the <u>radiation</u> region corresponding to the beam limiting, and <u>to transform</u> ~~transforms~~ the second region to exclude the <u>radiation</u> region corresponding to the beam limiting when the second region includes the <u>radiation</u> region corresponding to the beam limiting;

a brightness computing unit ~~that computes~~ <u>configured to compute</u> a brightness value within the transformed first region or within the transformed second region when the first region or the second region is transformed by the region transform unit, and ~~computes~~ <u>to compute</u> a brightness value within the first region or within the second region set by the region set<u>ting</u> unit when the first region or the second region is not transformed by the region transform unit; and

a controller ~~that determines~~ <u>configured to determine</u> the X-ray loading factor related to the second X-ray radiation, based on the brightness value within the transformed second region corresponding to the first X-ray radiation or the brightness value within the second

region set by the region set unit, and ~~performs~~ to perform feedback control of the X-ray

generating unit based on ~~the basis of~~ the determined X-ray loading factor.

23. (Currently Amended) The diagnostic X-ray system according to claim 22,

wherein[[:]] the region setting unit is configured to set the first region and the second region

~~are of~~ in a shape and a size corresponding to a region to be diagnosed.

24. (Currently Amended) The diagnostic X-ray system according to claim 23,

wherein[[:]] the brightness computing unit is configured to perform the brightness

computation related to the first region or the second region ~~performed by said brightness~~

~~computing unit~~ in real time in association with the beam limiting manipulation by said beam

limiting unit, and the controller is configured to perform the feedback control of an X-ray

loading factor ~~performed by said controller~~ based on the first region or the second region ~~are~~

~~performed~~ in real time in association with a beam limiting manipulation by said beam

limiting unit.

25. (Currently Amended) The diagnostic X-ray system according to claim 22,

wherein[[:]] the brightness computing unit is configured to perform the brightness

computation related to the first region or the second region ~~performed by said brightness~~

~~computing unit~~ in real time in association with the beam limiting manipulation by said beam

limiting unit, and the controller is configured to perform the feedback control of an X-ray

loading factor ~~performed by said controller~~ based on the first region or the second region ~~are~~

~~performed~~ in real time in association with a beam limiting manipulation by said beam

limiting unit.

26. (Canceled)